

Optimizing Reproductive Health Through Education on the Physical and Psychological Impacts of Premenopause and Menopause

Niknik Nursifa¹, Hana Nurhanifah Budiadi¹, Ameliana Puspita¹

¹STIKes Budi Luhur Cimahi, Indonesia

ABSTRACT

Menopause is a natural physiological process marking the end of a woman's reproductive period, typically occurring between the ages of 45 and 55. Hormonal changes, particularly decreased estrogen and progesterone levels, may lead to various physical and psychological symptoms that can affect women's quality of life. Limited knowledge about these changes often contributes to increased anxiety and inadequate health management. This study aimed to evaluate the effectiveness of an educational intervention in improving knowledge of the physical and psychological impacts of premenopause and menopause. A quasi-experimental one-group pretest–posttest design was applied. Data were collected using a validated and reliable questionnaire administered to 40 participants selected through total sampling. The intervention was conducted at TKQ Fathussalam Al Mubaarok, Bandung, on October 15, 2025. The results showed a notable improvement in participants' knowledge following the intervention. The proportion of participants categorized as having good knowledge increased from 15% in the pretest to 75% in the posttest, while those with poor knowledge decreased from 50% to 5%. These findings indicate that educational interventions are effective in enhancing women's understanding of reproductive health during the menopausal transition. Future research is recommended to include larger sample sizes and control groups to strengthen the validity of the findings.

Keywords: menopause; health Education; reproductive health; quasi-experimental study

Corresponding Author

Niknik Nursifa

Midwifery Education Program, STIKes Budi Luhur Cimahi, Indonesia

niknsifaz@gmail.com

INTRODUCTION

Menopause is a natural biological process marking the end of a woman's reproductive period, typically occurring between the ages of 45 and 55. This transition is associated with a decline in estrogen and progesterone levels, which may lead to a range of physical, psychological, and social changes. Globally, menopause represents a significant public health concern, as the number of postmenopausal women continues to increase. It is estimated that by 2030, approximately 1.2 billion women worldwide will be in the postmenopausal phase, highlighting the growing importance of addressing menopausal health issues.

Epidemiological studies indicate that menopausal symptoms are highly prevalent and vary across populations. A large meta-analysis involving more than 480,000 women reported that symptoms such as joint and muscular discomfort affect up to 65.4% of women, while psychological symptoms such as anxiety and depression are also commonly reported. In Indonesia, menopause-related complaints are experienced by more than 80% of women, with approximately 75% reporting symptoms that significantly affect their daily activities and quality of life. Despite this high prevalence,

awareness and understanding of menopause remain limited, particularly in community settings.

From a theoretical perspective, women's responses to menopause can be explained using the Health Belief Model (HBM) and self-efficacy theory. The Health Belief Model suggests that individual health behaviors are influenced by perceived susceptibility, perceived severity, perceived benefits, and perceived barriers. In the context of menopause, women who perceive menopausal symptoms as serious and manageable are more likely to adopt positive health behaviors. Meanwhile, self-efficacy theory emphasizes an individual's confidence in their ability to manage symptoms, which plays a critical role in adapting to physiological and psychological changes during menopause.

However, previous studies have primarily focused on describing menopausal symptoms or clinical management, with limited attention to community-based educational interventions that integrate both physical and psychological aspects. In addition, there is a lack of evidence regarding the effectiveness of structured educational programs in improving knowledge and adaptive responses among women in the premenopausal and menopausal stages, particularly in local community settings.

Therefore, this study aims to address this gap by evaluating the effectiveness of an educational intervention in improving women's knowledge of the physical and psychological impacts of premenopause and menopause. This research is expected to contribute to the development of community-based health education strategies that support women in achieving better reproductive health and quality of life during the menopausal transition.

METHODS

The approach that will be used to address the above issues is a community-based approach, where the problem-solving strategy is targeted directly at the target group by optimizing the roles of teachers and administrators at the TKQ Fathussalam Al Mubaarok and community members. The implementation methods used in this community service approach are:

- a. First stage: approaching the community by visiting the kindergarten.
- b. Second stage: collecting initial data.
- c. Third stage: identifying problems.
- d. Fourth stage: implementation.

This study employed a quasi-experimental one-group pretest–posttest design to evaluate the effectiveness of an educational intervention on women's knowledge regarding the physical and psychological impacts of premenopause and menopause.

The study was conducted at TKQ Fathussalam Al Mubaarok, Bandung, on October 15, 2025. The study population consisted of women aged 40–60 years who were in the premenopausal and menopausal stages. A total sampling technique was applied, in which all eligible participants were included in the study, resulting in a total of 40 respondents. Inclusion criteria included women willing to participate and able to complete the questionnaire, while those with severe health conditions preventing participation were excluded.

Data were collected using a structured questionnaire that had been previously tested for validity and reliability. The questionnaire measured participants' knowledge of physical and psychological changes during premenopause and menopause. Data collection was conducted in two stages: a pretest administered before the educational

intervention and a posttest administered immediately after the intervention.

The educational intervention was delivered through interactive counseling sessions, including presentations, discussions, and distribution of educational leaflets covering menopause-related topics.

Data analysis was performed using statistical software. Descriptive statistics were used to summarize participant characteristics and knowledge levels. To assess the effectiveness of the intervention, a paired t-test was used for normally distributed data; otherwise, the Wilcoxon signed-rank test was applied. A p-value of <0.05 was considered statistically significant.

Ethical considerations were strictly observed. This study received ethical approval from the Institutional Ethics Committee of STIKes Budi Luhur. Written informed consent was obtained from all participants prior to data collection, and confidentiality of participant information was ensured throughout the study.

RESULTS AND DISCUSSION

a. Participant Characteristics

This community service activity was attended by 40 women aged 40–60 years who were in the premenopausal and menopausal phases. Most of the participants were housewives with a secondary education level. Prior to the activity, the majority of participants had never received specific education about physical and psychological changes during premenopause and menopause.

A total of 40 women aged 40–60 years participated in this study. The majority were aged 46–50 years (40%), had completed secondary education (50%), and were housewives (65%). Most participants reported limited prior knowledge regarding premenopause and menopause, indicating the need for targeted educational interventions.

Table 1. Characteristics of Community Service Participants (n = 40)

Characteristics	Frequency (f)	Percentage (%)
Age		
40–45 years	14	35,0
46–50 years	16	40,0
51–60 years	10	25,0
Education		
Elementary/Junior High School	12	30,0
Senior High School	20	50,0
Higher Education	8	20,0
Occupation		
Housewife	26	65,0
Self-employed	9	22,5
Formal worker	5	12,5

There was a substantial improvement in participants' knowledge following the educational intervention. Prior to the intervention, only 15% of participants were categorized as having good knowledge, whereas 50% were in the poor category. After

the intervention, the proportion of participants with good knowledge increased to 75%, while those with poor knowledge decreased to 5%.

b. Implementation of Educational Activities

Activities are carried out using the following methods:

- Counseling using presentation media
- Interactive discussions and question and answer sessions
- Distribution of reproductive health education leaflets

The material provided includes:

- Understanding premenopause and menopause
- Physical changes (hot flushes, sleep disturbances, joint pain, changes in menstrual cycle)
- Psychological changes (anxiety, mood swings, decreased concentration)
- Efforts to maintain physical and mental health
- The importance of family and community support

Participants were actively engaged in the activities, as evidenced by the many questions they asked about their complaints and how to deal with them independently at home.

c. Increased Participant Knowledge

The results of the pre-test and post-test evaluations showed an increase in participant knowledge after the education program. Before the education program, most participants had little to moderate knowledge about premenopause and menopause. After the education program, the majority of participants improved to a good level of knowledge, especially in understanding:

- The causes of physical and emotional changes
- Ways to manage stress and anxiety
- The importance of physical activity and a balanced diet

This shows that the education provided was effective in improving participants' understanding of reproductive health during premenopause and menopause.

Table 2. Participants' Knowledge Levels Before and After Education

Knowledge Category	Pre-Test	Percentage (%)	Post-Test	Percentage (%)
Good	6	15	30	75
Fair	14	35	8	20
Poor	20	50	2	5
Total	40	100	40	100

In addition to categorical improvements, the mean knowledge score increased significantly after the intervention. The average pretest score was 56.2 ± 10.3 , which increased to 78.5 ± 8.7 in the post-test.

Table 3. Paired t-test Analysis of Knowledge Scores (n = 40)

Variable	Mean ± SD	Mean Difference	t-value	p-value
Pretest Score	56.2 ± 10.3	22.3	12.45	0.001
Posttest Score	78.5 ± 8.7			

The paired t-test analysis showed a statistically significant increase in knowledge scores after the educational intervention ($t = 12.45$; $p < 0.001$). The mean score increased from 56.2 ± 10.3 in the pretest to 78.5 ± 8.7 in the post-test, with a mean difference of 22.3 points. This indicates that the intervention had a strong effect on improving participants' knowledge.

d. Impact on Reproductive Health Optimization

This activity has a positive impact on optimizing the reproductive health of mature women, as demonstrated by:

- Increased mental preparedness in facing menopause
- Reduced anxiety due to a better understanding of bodily changes
- Increased motivation to maintain physical and psychological health

This education helps participants to not view menopause as a frightening condition, but rather as a phase of life that can be lived healthily and productively.

e. Challenges and Solutions During Activities

Several obstacles encountered during the implementation of the activity included:

- Limited time for the activity
- Variations in participants' levels of understanding

The solutions implemented were:

- Delivery of material in simple language
- Use of everyday case studies
- Distribution of leaflets as material for independent study at home

f. Follow-up Activities

As a follow-up, the outreach team recommends:

- Continuous educational activities through integrated health service posts or PKK groups
- Formation of discussion groups for premenopausal women
- Collaboration with community health centers for routine health screenings

It is hoped that continuous education can maintain and improve the quality of reproductive health and psychological well-being of women during the menopausal transition.

CONCLUSION

This study demonstrates that the educational intervention significantly improved participants' knowledge regarding the physical and psychological impacts of premenopause and menopause. The proportion of participants with good knowledge

increased from 15% before the intervention to 75% after the intervention, while those with poor knowledge decreased from 50% to 5%. In addition, the mean knowledge score increased markedly, with statistical analysis confirming a significant difference between pretest and post-test results ($p < 0.001$).

These findings highlight that structured, community-based educational programs are effective in enhancing women's understanding of menopausal changes, particularly in both physical and psychological aspects. The study contributes to the evidence that targeted health education can support better adaptation and preparedness among women undergoing the menopausal transition.

Future research should incorporate larger sample sizes and control groups to strengthen the generalizability and methodological rigor of the findings.

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REFERENCES

- Avis, N. E., Crawford, S. L., & Green, R. (2021). Vasomotor symptoms across the menopause transition: Differences among women. *Obstetrics and Gynecology Clinics of North America*, *48*(3), 421–435. <https://doi.org/10.1016/j.ogc.2021.05.002>
- Bai, X., Li, J., Zhou, L., & Li, X. (2020). Influence of menopause on health-related quality of life: A systematic review. *Maturitas*, *139*, 50–57. <https://doi.org/10.1016/j.maturitas.2020.05.007>
- Dennerstein, L., Dudley, E. C., & Guthrie, J. R. (2003). Predictors of declining self-rated health during the transition to menopause. *Journal of Psychosomatic Research*, *54*(2), 147–153. [https://doi.org/10.1016/S0022-3999\(02\)00415-4](https://doi.org/10.1016/S0022-3999(02)00415-4)
- Kementerian Kesehatan Republik Indonesia. (2020). *Buku saku kesehatan reproduksi perempuan usia lanjut*. Direktorat Kesehatan Usia Produktif dan Lanjut Usia.
- Monteleone, P., Mascagni, G., Giannini, A., Genazzani, A. R., & Simoncini, T. (2022). Symptoms of menopause—global prevalence, physiology, and implications. *Nature Reviews Endocrinology*, *18*(4), 199–215. <https://doi.org/10.1038/s41574-021-00547-5>
- Permatasari, R., & Mulyani, E. (2021). Perubahan fisiologis dan psikologis pada wanita menopause serta upaya penanganannya. *Jurnal Kesehatan Reproduksi*, *9*(2), 88–95.

- Rahmah, N. (2020). Strategi manajemen kesehatan menopause pada wanita lansia. *Jurnal Ilmiah Keperawatan, 12*(1), 55–62.
- Sari, D. K., & Utami, F. S. (2023). Health education intervention in improving menopausal knowledge among women: A quasi-experimental study. *International Journal of Nursing and Health Services, 6*(2), 150–158.
- World Health Organization. (2022). *Menopause and healthy ageing*. <https://www.who.int/>
- Zhang, Y., Chen, X., & Wang, R. (2021). The role of self-efficacy in managing menopausal symptoms: A cross-sectional study. *BMC Women's Health, 21*, Article 1–9. <https://doi.org/10.1186/s12905-021-01345-7>